

## IN THE CLAIMS

1. (Currently Amended) An apparatus ~~Flat microwave antenna comprising of~~  
~~a plurality of three stacked grounded metal plates, each~~ with plurality of openings  
(apertures) arranged about as a matrix of columns and rows, and  
~~a plurality of antenna feed layers/mechanisms; disposed/situated~~ between the said plates,  
wherein said apertures are arranged as matrix of columns and rows,  
~~wherein the said a plurality of excitation probes are about~~ aligned by pairs with said  
apertures for; forming that way antenna radiating elements;  
~~and a solid metal plate disposed/situated below adjacent the last one (bottom one) of the~~  
said grounded plates, which together with three plate stack forms a plurality of two separate  
antenna packages (Ap1) and (Ap2) containing two orthogonal polarizations, the wherein said  
antenna packages further including include layer (8) with active devices assembled on it for an an  
active device layer providing initial amplification of the received signals and being coupled;  
~~which are connected with the groups of radiating elements (4D, 5D, 1A) through coaxial~~  
~~transitions (13) and a combining block (9), connected to the said active layer (8), wherein~~  
antenna feed mechanisms layers (4,5) are arranged as subarrays and the antenna output is  
connected ~~through transition (12) to a twin Low Noise Block (LNB).~~

2. (Currently Amended) The apparatus ~~Antenna~~ of Claim 1, including insulating layers including  
a low-loss dielectric material disposed/wherein between the said grounded metal plates (1,2,3) and  
the said antenna feed layers (4,5) mechanisms ~~are situated insulating layers (6) made by a low loss~~

dielectric material.

3. (Currently Amended) The apparatus Antenna of Claims 1 or 2, wherein the said antenna feed mechanisms layers (4,5) are divided to sixteen subarrays, wherein pairs of each two of them are identical and form one quarter of the antenna.

4. (Currently Amended) The apparatus Antenna of Claim 3, wherein the antenna layers of each neighbouring antenna quarters (4,5) are rotated at 90° angle to each other.

5. (Currently Amended) The apparatus Antenna of Claim 1, wherein the antenna feed mechanism includes the central conductor of the strip line (4B, 5B) from said antenna feed layers (4,5) is made by and a metal sheet with a thickness of 0.1 to 0.3 mm, formed using processed using some of the known technologies for thin metal sheet etching to form strip feed (4B, 5B).

6. (Currently Amended) The apparatus Antenna of Claim 5, wherein the metal sheet forms supporting frames (4A, 5A) and elements for mechanical connection (4C).

7. (Currently Amended) The apparatus Antenna of Claim 6, wherein the said elements for mechanical connection (4C) are accomplished as RF decoupling circuits.

8. (Currently Amended) The apparatus Antenna of Claims 1 to 7, wherein the said radiating

elements ~~(1A)~~ have an octagonal shape with two parallel long sides and, two shorter parallel sides ~~four short sides~~, connecting each one of the corresponding ends of the long sides with the respective ends of each one of the shorter sides.

9. (Currently Amended) The apparatus ~~Antenna~~ of Claim 1, wherein one of the ~~the upper~~ metal plates includes ~~with openings (1) is made by a metal sheet (100) with openings (100A), which is much more and is~~ thicker than the rest of the metal plates ~~(2,3)~~ in the package.

10. (Cancel)